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ABSTRACT

This paper reports data from a program of research examining how teachers learn the practical, professional knowledge of teaching. Data collection focused on interviews with teachers immediately following a period of classroom observation. Interviews were spaced at monthly intervals when possible. The 15 participants included teachers in training, teachers in their first year of teaching, and several teachers withseveral years of experience. Of particular interest was the concept of "seeing" as applied to teachers' views of their work: the process of perception being regarded not as observation followed by selection and interpretation, but as a unified process in which observation is interpretive. The occurrence and significance of metaphors in teachers' accounts of their practical knowledge and the changes that occur in teachers' perspectives on their work as a result of events of practice were explored. The theoretical framework for the research is drawn from Schon's (1983) "The Reflective Practitioner." This paper explores the tension between theory and practice by considering excepts from interviews with two teachers, one in her first year of teaching and the other in her second year of teaching. (JD)

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LEARNING THE PROFESSIONAL KNOWLEDGE OF TEACHING: Views of the Relationship between "Theory" and "Practice"[1]

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Introduction

This paper reports data from a program of research examining how teachers learn the practical, professional knowledge of teaching. Data collection presently focuses on interviews of teachers immediately following a period of classroom observation; interviews are spaced at monthly intervals, when possible. The 15 participants include teachers in training, teachers in their first year of teaching, and several teachers with a number of years of experience.

We are particularly interested in the concept of "seeing as" applied to teachers' views of their work: the process of perception is regarded not as observation followed by selection and interpretation, but as a unified process in which observation *is* interpretive. Individuals vary in their ways of interpreting classroom events and in their awareness of possible alternative interpretations. Thus we are interested in the occurrence and significance of metaphors in teachers' accounts of their practical knowledge (Munby, 1986). We are also interested in the changes that occur in teachers' perspectives on their work, over time and during and as a result of events of practice. The theoretical framework for the research is drawn from Schön's (1983) *The Reflective Practitioner*. His account of "reflection-in-action" as a process in which professionals reframe practical problems in response to puzzles and surprises has proven to be very powerful in studying the experiences of student teachers and beginning teachers (Russell, 1986).

The tension between "theory" and "practice" is familiar in education; it is also poorly understood. During pre-service programs, beginning teachers expect substantial amounts of on-campus course work and, at least initially, they can be expected to take it for granted that the content of courses will transfer directly and unproblematically to the in-school practical setting where they begin to act as a teacher. As experience accumulates, particularly in the first years of teaching, the fundamental puzzles of professional education take on more and more meaning as the beginning teacher realizes that much course work seems "irrelevant" from the perspective of practice.

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Schön (1983) argues that the tension between on-campus rigor and in-practice relevance is a fundamental characteristic of the present state of education for the professions. This paper examines specific features of this tension as it occurs in the professional education of teachers. The tension between theory and practice is examined by considering excerpts from interviews with two teachers, one in her first year of full-time teaching, and the second in her tenth year of teaching. Each teacher is presented in a separate section of the paper, and a final section draws comparisons between the two cases. One goal of the paper is to call attention to the potential value of assisting beginning and experienced teachers in understanding and coping with the puzzling tension between theory and practice as they work to improve their own practices.

A First-Year Teacher's Views of Theory and Practice

Nancy was easily identified as an articulate representative of the first-year teachers who are presently participating in our study of metaphor and reflection in teachers' practical knowledge. She is quick to tell us, openly and frankly, that she did not learn the things she needed to learn in her classes at the Faculty of Education last year, during her pre service program. Nancy is teaching a class of Grade 2 children in a school in a rapidly growing community in southern Ontario. For the first two months of the year, she and her class were allocated space in one area of the school library. The move into her own classroom with four walls and a door brought a welcome change in November. But that event did not remove the dilemmas of professional practice for this first-year teacher, and the first quotation makes it apparent that this is a very thoughtful beginning teacher. (Italicized speeches are those of the person interviewing Nancy.) Nancy indicates an awareness of how much she is learning from her practice, and she indicates that what little free time she has would not be spent reading "how to" books. She puzzles about what it means to be "professional" and about the adequacy of her "professional knowledge." She speaks of "theory" as something to have and then apply, and this suggests the familiar perspective that Schön (1983) terms "technical rationality."

> I've been thinking of something else for the past few weeks. I feel that I'm not--my professional knowledge is not good. *Why?* Because, I mean, I'm just learning to cope in the classroom. I'm learning to establish a routine, establish a trust, and all those types of things. And I haven't--that my time is not free--when it is free I certainly don't want to pick up a book on "How to Teach- How Children Learn to Spell." Maybe I'm not being as professional as I could be. But I think in a couple of years, once I get myself feeling that way, maybe then I'll pick up some books on the theory of "why." You see it shouldn't be that way, I should have all that theory and then be able to apply it.

As Nancy continues, she adds detail to her position. What she values, at the level of "practical knowledge," are the techniques suggested at conferences and professional meetings; the contribution of her pre-service teacher education program seems to have been minor. She makes first mention of a significant professional puzzle: the tension between "child-centred" and "teacher-centred" approaches. Here, then, is an immediate concern which has consequences at the level of "theory."

> Certainly I know about inventive spelling and I know about things that I learned from the "Reading for the Love of It" conference, and things that I learned from Professional Activity days. And a few minor things from [the Faculty of Education] and the trend in education. But I don't really know the meaty things that I feel that I should know. Over the last few weeks I haven't been doing centres. And that's

> because I obviously have them more at my fingertips when they're not in centres. And I mean you hear all about being a child-centred rather than a teacher-centred educator. And I'm totally for that and I hope that's the way I run my classroom. However, at first I do want *not* to have control of them. I want them to be responsible to think on their own, but at the same time--I don't think it's a contradiction--but I want to be able to feel like I know where they're at.

It is not surprising to find that Nancy is attentive to what she learns and does not learn from other teachers in her school, and to their comments about her teaching. When one teacher expressed particular surprise that Nancy was "doing centres," Nancy defended her practice to herself by noting that it was the only approach she knew well.

> The other teachers are willing to help me if I go and bang on their door, but as far as coming and saying, "Well look, here's what we're doing. Would you like to do this?", they don't. One of them said to me, "You're doing centres in your first year?" And I felt like saying, "Well, it's the only thing I've ever been taught to do. I wasn't taught to run off dittos!"

Nancy indicates that she is very aware that she is learning more and more about how children think at a particular grade level. What she is learning about individual differences is telling her that there are no absolute rules, and this suggests that no one "theory" can guide a teacher's practices across a group of children. Theoretical positions are here characterized as "traditional" and "modern."

> Like right now I'm learning what a Grade 2--how they think. I don't know how educators can say that you should never sound out words, or that you should never do this or that. You can't. If you're getting children at their individual needs, you have to realize that kids learn differently. I feel there is such a friction between the traditional way of doing things and the modern way. And I think there's a balance between the two. I'm finding with some of these kids that there are some I'd love to give centres to. And they could work independently. But the majority of them can't. And if they don't have the basic skills, I'm not going to give them things independently to do that they are struggling with, that I can't teach a group lesson about.

Nancy is comfortable with the "theory" of using centres in classrooms at the Grade 2 level, and she has practical experience using centres. Now the practical difficulties of using centres with the particular group of children she is teaching are generating concerns about the theory she would like to adhere to in her practice. She indicates that she is finding it easier to think about her work, and she could be said to be learning about "theory" in two interactive ways: As she teaches, she comes to understand the full meaning of a particular approach, and she also learns how different children respond to an approach.

> I'm more confident about reflecting on what I've done. I can look now at what the kids are doing and say, "No, I'm going to have to modify that." And I know how I'm going to modify it. I'm getting to know them better.

In one of her first interviews, very early in the school year, Nancy spoke of the pressure to set rules and routines, and saw herself as "just trying to get through." She also criticized her pre-service training because it did not provide specific practices and procedures. These are familiar criticisms: teacher educators often want their clients to understand what they will

be doing in classrooms with children, yet those clients yearn for specific practices that will enable them to perform successfully the activities of teaching.

> As a beginning teacher, you're just trying to get through the curriculum. You need to establish your rules, you have to set your routine, things that I think I learned [last year] from talking to teachers. . . .
>
> [At the Faculty of Education] they emphasized things that I don't think needed to be emphasized and instead left out the important nitty-gritty stuff. Yet I look back at the things I did at [the Faculty of Education] and I wonder how much I really am going to use--not a lot. In one course we were given all these questions to ask about evaluating but he [the professor] didn't give us any concrete things about how we should write a report card, and how detailed it should be.

The importance of specific practices and materials to a beginning teacher is very apparent when Nancy is asked what advice she would give to someone in a teacher education program, preparing to begin the first year of teaching. She now admits to herself that the desire to have planned the entire year has given way to the reality of planning one day at a time.

> *Are there any words of wisdom that you could impart to a student teacher, drawing on your experiences so far?*
>
> Hmmmm. There's lots of things I could tell them. If they got hired early enough, I would tell them to get a hold of their books or get a hold of what is expected of them in Grade Two. And then mentally--do their long-range plans, have a good idea of when they're going to do it. And talk to another teacher and find out what concepts, in Math for example, are harder to grasp. Get busy making games and added things before they get into teaching. Get a good game source for doing Time, Place Value, get all those things done ahead of time. Get your writing folder and your objectives for your writing folder set out right at the beginning. Know exactly what your aim is for your writing folder. That's major. Writing folder. Get your aims and objectives. How you're going to set it up. . . . Get as many freebies as you can from your Primary-Junior consultant. Take time to relax! Sometimes just leave and forget it and then come back with your day planned. You're only going to do a day at a time. And as much as you wish to be planned for a year in advance, I don't think there's any way you can do it within your first couple, three or four years unless you're teaching the same grade. . . . I would tell them practical things! It wouldn't be like [the Faculty of Education].

As we work to draw a composite sketch of Nancy's views of theory and practice, we see the very strong emphasis on the importance of practical information. She was not given enough practical information but she would give it to others were she in a position to do so. Nancy is aware of issues at the level of "theory", particularly the issue of modern versus traditional approaches, with the tension between child- and teacher-centred classroom routines.

Even though Nancy talks in the familiar language of "having theory to put into practice," it appears that her real starting point was routines that would enable her to conduct lessons in her first classroom. Routines enable her to acquire teaching experience and thereby to find out whether children can learn what she wants them to learn. Nancy knows that theory is relevant to practice in some way, but just how it is relevant is not yet clear to her.

An Experienced Teacher's Views of Theory and Practice

Diane has 10 years of teaching experience, in Grades 7 and 8, in Kindergarten, and presently at the Grade 1 level; her school is located in a semi-rural area near one of the larger cities in eastern Ontario. Diane adapted very quickly to the experience of being interviewed about her work, and most of the quotations that follow are taken from her third interview. Her ability to recall clearly her personal development as a teacher contributed significantly to the richness of her comments about the relationships between theory and practice.

As Diane begins her comments, she recalls a stage very similar to that at which Nancy presently finds herself. The earliest summer courses she attended provided her with techniques of teaching, techniques that she valued considerably but which did not challenge her to think through the "Why?" of her teaching. She suggests that there may be no other way to begin to teach than to accumulate and develop "techniques that work." (Italicized speeches are those of the person interviewing Diane.)

> Instead of taking a [course that ran over] three summers, I took Phys. Ed. one summer, Math the next, something different. So that I tried to grow strong in everything instead of being more narrow. And then when I knew a lot of methods, I felt it was time to consider why I was doing what I was doing.
>
> *So your first courses were . . . basically methods courses?*
>
> It's just a quick fix. Monday morning--what do I do Monday morning. Some of them were very good. But they don't get you to think through why you are doing it, what are your objectives. They say, "Here's a package; it'll probably work."
>
> That was a really good bag of tricks. For a beginning teacher, maybe that's the only way you can start is to have really sound methods. I don't know.

As Diane continues, she shifts to describing how she began to "feel uncomfortable" about the teaching techniques she was using.

> Because if you are going to start thinking, "Why am I doing this or why do I feel uncomfortable?"--with me, it was usually, "Why do I feel uncomfortable teaching kids this way?"
>
> *And then that's what made you think "Why am I doing it or how could I do it another way?"*
>
> Most of the things that I felt uncomfortable with were--I was imposing things on the children rather than--us telling them what they had to learn, how they had to learn, when they had to learn it--and I had to use really tough discipline to get them to sit down long enough to do all the things I wanted. And I don't like being really hard on kids. I mean it's nice to have a classroom where they are very quiet and scared to death of you, but I didn't like that. I got uptight teaching that way.

Thus it appears that Diane accumulated and used new techniques across a range of subject areas but found herself becoming increasingly uncomfortable about the fact that she was making all the decisions about the learning process, with little or no involvement of her students in those decisions. Enrolling in a Master of Education program provided the avenue Diane needed to make progress in understanding why the techniques she had mastered at the

level of practice made her uncomfortable at the level of theory. She indicates in the following statements that she gained support for her discomfort and she began to learn of alternative techniques of practice.

> So when I started to go . . . into the master's degree--that was the best thing that ever happened because we got to go and look at how children learn how to read, how do they learn how to write. You know, how does one type of instruction not suit certain types of students. And it was really what I was looking for. I knew what we were doing before wasn't right for kids, for a lot of kids.
>
> *But you didn't know why?*
>
> I didn't have anything to replace it with. I didn't have a methodology. Even when they started talking about centres--a lot of people taught centres the same way they taught them when they were in rows. They just moved it to a table. It still wasn't getting at what I needed. I needed to know, really know especially in the primary, really know how they learned how to read so that you could give it to them easy. I didn't like teaching them the phonics and all that. It was too hard for them. They didn't like it. You had to threaten them or they wouldn't learn it and when they did know it, they didn't know what to do with it. So I had to know a lot more about the subject. And then when the centre idea came along at the same time, then it all sort of fit in. They could get up and walk around the room, find their own level of reading.

Diane suggests that the development of alternative practices and the development of a coherent framework supporting the practices went hand in hand. She is brave enough to admit that she is not certain how much her practices changed, but she found it very important to develop a personal philosophy. "Easy learning" is an intriguing notion.

> So I don't know whether I really changed. I just found more--I felt better about the things I was doing and--you know because they suited what I had studied about Reading or Math and they went along with my philosophy of learning, you know, what I call "easy learning": Let the child lead you. And if he's not happy, then you're doing something wrong. You're getting in his way or you're going too fast or something like that. I don't think children are lazy. And they won't fight you if you can just find their path--almost all of them. Everything sort of--when it matched my philosophy, the type of instruction, I kept on with it and I gradually--even now I eliminate things that I am not comfortable with.

Diane has concentrated on theories of reading in her studies, and it is important to her that practices of teaching reading have theoretical support. At the same time, she continues to attach importance to knowing that her children like the experience of learning to read.

> The children look for differences in words. That's what they cue from. And differences in letters. And you start giving them a bunch of stuff that all looks the same, you start making it more difficult. That's one place where the study of reading has really, I think, helped me a lot to feel, "This is the right way to do it." And even if they don't learn this way, they like it. They all think they are reading. They come eagerly with their books, they say, "Hey when's quiet reading time?"

Diane reveals a clear understanding of how difficult it can be for teachers to assess or modify the gaps between their theories and their practices. She also acknowledges that knowing more

about theory can stimulate the frustrating process of self-criticism, yet it seems unlikely that she could ever view her practices any other way. She refers to new Math textbooks as "old math" because of the theory of mathematics learning on which they are based. Diane also speaks critically of the tendency of some teachers to use a "new" Math program mindlessly. She is very clear about the importance of teaching practices that suit how children learn *and* that can be supported at the level of theory by the teacher.

> I remember that one of my objectives one year for [the school board's evaluation process] was to bring my practice closer to my theory. And the vice-principal was so impressed.
>
> *How do you check that?*
>
> I knew it would be impossible to check. Yes, he thought that was really worthwhile. But actually I'm always quite serious about these things and that really was what I wanted to do. That's a problem. Every once in a while you think when you're teaching--it is so complex when you start to look at it, if you didn't know the theory, you might be better off. It can get in the way. You see you start to question, you criticize. . . . I've got books in my room that are not two years old that are what I call the old Math, where the children learn "two plus one equals three" and there are no counters. Two hundred pages for them to write in. Well if you didn't have any theory about how children learn Math and you weren't the type of person to question anything at all, you would just hand them the book and they would have to do it. And the parents love it. And the thing is if you give them a standardized test, they'll do just as well as any other group. That's because the test is wrong. It's made for the book. And it's the same way with *Math Their Way* [(Baratt-Lorton, 1976)]. People take that and they use it straight gospel, from page one to the end with no thought given to whether they are interested. I mean the lady who wrote that did a tremendous service to the people who were using the old Math because they were looking for a method; they knew they were uncomfortable with the old way.

As Diane continues to comment on the Math program that interests her, she speaks of learning the program "really well" at the level of practice in order to be able to assess it at the level of theory. She reports her personal interest in studying the learning of Math just as she has already studied the process of learning how to read. Diane also admits to a degree of uncertainty about how Math should be taught.

> The time isn't there to reflect and say, "What could we do better?" and you need your universities for that. Maybe they have the time to do that. But now we have to learn the *Math Their Way* really well so we can step aside and say, "Hey, where does this fit into the theory?" I don't really think I had much of a theory about Math and that's why it's taken me so long to really inspect the *Math Their Way* approach. I didn't have much to tell me what's right. I know that children need to learn through things that are relevant and that they need a lot of concrete stuff and that they have to be out of their seats and active or active in their seats, whatever, and at the same time you have to have certain objectives for them to reach. They are not going to discover Math on their own. I think that maybe they could more or less discover Reading, but they are not going to discover that "six plus four equals ten." Maybe it would take them five years. They just don't seem to do that. At least they wouldn't get to our objectives. I would like to have some sort of really

> good theory about Math--or maybe what we're doing with them in *Math Their Way* is good. See I'm not sure.

Earlier in the interview, Diane had given similar indication that she sees a teacher beginning by mastering a program at the level of practice, then moving from comfort with practice to criticism of practice, using theories acquired by studying how subjects are learned.

> I know the units I'm going to do next and I know what's coming in Math. I'm much more comfortable with the Math program. I'm just about ready to start being critical of the Math program. I need to go and study about Math just like I studied about Reading. And then after that Science.

A final quotation from Diane's interviews confirms her strong belief in the role of experience in learning. She seems to indicate that experience is valuable to children even if no "formal" learning results. She also reveals her ability to relate her own learning experiences to those of the children she teaches. Diane begins with a comment about the pitfalls of "direct" application of Piaget's interest in when children understand conservation.

> You take Piaget's theory and you try and put that into practice like at the sand centre and you are almost telling them. It's something they should discover through years of experience and not in a half hour lesson and yet here we are expecting--sort of teaching, although I never test it and I never check whether they can do it or not. Because if you started telling parents that they couldn't conserve matter, the parents would say, "Who cares! Is that necessary before Grade 2?" But you set up the experiences for them. They love to play in the sand. It won't hurt them, but to me it's almost an artificial way of getting theory into practice. And we do it at the water centre too. We give them these cylinders, one is half as big as the other and we walk around and we say, "Hey, did you notice how many of those it would take to make those?" or "The tall one, how much water does it take to fill it?" I still find that amazing you know. I must have missed that stage in my experience. When the long skinny one would take too much sand I guessed to fill the short fat one, and it was just right. I was as excited as the kids. See that wouldn't stay with them if they hadn't already experienced that.

The overall impression from Diane's interviews is that of an experienced teacher who has thought very carefully about her practices in the classroom. Diane seems very aware of her own mastering of routines of practice, and recalls that "comfort" provided both the stimulus to question and the basis from practice could be criticized in terms of theory.

The Role of Theory and Practice in Learning to Teach

The excerpts from interviews with Nancy and Diane were selected for their potential to reveal how these two teachers, one beginning and one experienced, see "theory" and "practice" in the context of their thoughts about their teaching and their experiences of learning about how to teach. The picture that emerges in each instance suggests that learning to teach is *not* a two-step process of (1) learning theory and (2) putting theory into practice. Yet our culture in general and our universities in particular use the phrase "theory into practice" so easily and freely that it would be surprising if those electing programs of teacher education did not *see their own learning as* a two-step process.

After several months of experience, Nancy's comments indicate that she still feels she should be learning theory before she practices. She seems critical of her own developing professional knowledge *because* she is not learning that way. Nancy accepts the fact that she is learning how to develop and use classroom routines, but she seems to feel "short-changed" by her professional education within a university setting. She is patient about perfecting her practices, but impatient about acquiring the theory that relates to those practices. It is intriguing to note the number of times she uses the term "give" in the context of transferring knowledge (of either techniques and routines or of theory) from one individual to another, regardless of the level of experience. For Nancy, the role of experience in understanding the meaning of theory is not yet clear. Yet she is beginning to deal with the interaction between her teaching routines and the responses of children to those routines, and it is here that she refers to the tension (at the level of theory) between child- and teacher-centred approaches. As Nancy continues to test the value of "using centres" in her classroom, she will come to understand more fully the nature of the tension teachers feel when theories compete in their recommendations for how classrooms should be organized.

Diane displays confidence in her professional knowledge and an acute awareness of how that knowledge developed over time and in relation to experience. If Diane ever did feel that she lacked "theory," she no longer gives any signals to that effect. She presents a striking account of the importance of acquiring routines and mastering their use *as a basis for* moving on to consider theory and ask questions about one's practices. She distinguishes clearly between courses that offer a "bag of tricks" and courses in a Master of Education program that offer theories and questions about the "Why?" of teaching. Diane speaks of becoming comfortable with practice and *then* moving on to theoretical issues associated with questioning and criticism of practice. She admits that theory "can get in the way," yet it is apparent that she cannot stop herself once she begins to ask questions about practice. The cycle that she has completed with respect to the teaching of Reading is one that she now feels ready to begin with Math, and she would like to follow that cycle with a similar analysis of how Science is taught. Diane's awareness of how she began to teach and of how her professional knowledge continues to develop leaves her free from the potential conflict of the "theory into practice" image of learning.

It is neither surprising nor puzzling to hear Nancy criticize her teacher education program for not "giving" her the practical routines that she did gain from teachers and is continuing to gain from conferences and workshops. Teacher educators are not likely to relinquish their interest in having beginning teachers understand the theoretical positions and tensions associated with various teaching practices, nor is it suggested that they should. When the program of professional preparation *ends* at the point that one *begins* to acquire experience on one's own, then there is an inevitable pressure to raise theoretical issues that may never arise again. The evidence that teachers will ask questions after becoming comfortable with practice, as Diane does, has not been widely available.

Nevertheless, it does seem possible that teacher educators could deal directly and explicitly with the "theory into practice" imagery that made Nancy's university courses frustrating and that continues to concern her as she considers the quality of her professional knowledge. *Is it possible* for teacher educators to deal with theory in a way that conveys to beginning teachers significant details of the process of professional development that awaits them as they develop confidence in their classroom practices? *Is it possible* to shift beginning teachers' unexamined assumption that they are involved in a process of "putting theory into practice"? A colleague has provided me with one encouraging indication that progress is possible:

> I forget that many of these young people still do not know how to teach when I work with them, and I often share things which I as an experienced teacher *know* they need, but they, lacking the experience, are not receptive because experience has not yet taught them that it is needed. (D. Bull, personal communication, February 27, 1985)

The perspective suggested here and illustrated by Nancy and Diane rejects the view that theory is learned first and then put directly into practice. Corroboration of the rejection of the traditional view appears in the recent report of a school-based research project in Australia. The PEEL (Project for Enhancing Effective Learning) Project at Laverton High School in Victoria set out to have students "become more willing and able to accept responsibility and control for their own learning" (Baird & Mitchell, 1986, p. v). Mitchell played the dual role of project leader (a role he shared with Baird, whose research provided the theoretical background) and project participant. Of the 10 participating teachers, Mitchell was the only one who immersed himself in the background research before attempting changes in his own classrooms; in reporting his experiences, he spoke very clearly about the value of theory in developing new practices. His conclusions were not encouraging for the "theory into practice" position. In a section headed "Extensive Preliminary Reading Proved To Be of Very Limited Value in Planning and Implementing Classroom Strateties [*sic*]," Mitchell explains how his personal efforts, as an experienced teacher, to prepare himself with "theory" proved to be of little value in improving his own practice.

> The fact that I had convened the group had stimulated me to do quite a lot of reading. I had read [John Baird's] Ph.D. thesis and several of the papers he and Dick White had written, and had taken numerous opportunities to discuss a range of issues and questions with him. In other words, I had acquired a substantial body of knowledge about the design, implementation and outcomes of John's earlier research, as well as the model he had constructed which defined metacognitive behaviour. This extensive preliminary cramming was exactly what we had decided not to do with the rest of the group. My main reason for doing it was that I felt that I needed to be on top of John's work if we were going to introduce it to the group when appropriate. As the term unfolded, it proved to be of very limited value in helping me avoid difficulties in my classroom. (Mitchell, 1986, p. 47)

Research on inservice education of teachers in the last two decades--including research such as that reported from the PEEL Project in Australia--has produced important new insights that have not yet been used as perspectives for recasting the initial professional education of teachers. The data provided by Nancy and Diane encourage me to continue to listen to the preservice candidates whom I teach myself, to continue to try to directly reshape their assumptions about theory and practice, to continue to heighten their awareness and interpretations of their own experiences of learning to teach. When I recently had an opportunity to summarize nine years' experience working with beginning teachers in a preservice program, I found myself framing the problem in terms of how well one listens to beginning teachers, to what Schön (1983) would term their "back-talk."

> Because no one listens very closely to the novice and because we persist in talking about "theory into practice," no one comes to understand the depth of the non-relationship between theory and practice. (Russell, 1987, p. 128)

I also formulated two assumptions that provide one type of summary of the messages in Nancy and Diane's comments about theory and practice:

1. Experience, including one's present teaching practices, *shapes the meaning* that we read into research, theory, and other sources of recommendations for changes in practice.

2. The relationship between theory/research and practice can be one in which the two are alternate phases *of a single activity*, not two independent domains linked by a tenuous act of faith. (Russell, 1987, p. 130)

As our research into teachers' professional knowledge proceeds, we will continue to examine participants' interviews for further insights into their understanding of the relationship between theory and practice. *We are increasingly convinced that the image one holds of the relationship between theory and practice can significantly influence understanding of the personal learning process, at every stage in one's development of the professional knowledge of teaching.* There seems to be considerable promise and potential for research that tracks the theory-practice perspective through the broad range of preservice and inservice teacher education activities.

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